SELECTION IN SELF-FERTILIZED LINES AS THE BASIS FOR CORN IMPROVEMENT.¹

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INTRODUCTION.

The way in which domesticated animals and cultivated plants have been brought to their present condition is, for the most part, unwritten history. In the chief crops and most valuable animals the changes which have taken place during their amelioration have been vast. Selection, following up more or less intentional and unintentional hybridization, is the agency mainly responsible for these great advances.

Selection has been practiced in different ways. At the start primitive man chose forms from the wild which suited his need or fancy. This selection involved nothing more than the appearance of the individuals chosen. Selection based solely on appearance remained the only method until recent times and is still largely in vogue today with many plants, particularly Indian corn or maize, the most valuable plant in the Western Hemisphere.

Animal breeders as a rule have been more progressive than plant improvers. In the eighteenth century, when the great breeds of cattle, horses, and swine began to assume their present familiar forms and patterns, there was a far-reaching change in the method of selection. This innovation was the pedigree record system. The essential purpose of a pedigree system is to make possible selection based upon performance. When the characters and capacity of the ancestors and of the progeny as well as of the individuals themselves were

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